



Site-Specific Quality Assurance Project Plan / Field Sampling and Analysis Plan

For

**Soil/Sediment Sampling at Colfax Creosoting/Roy O. Martin
Site**

**Alexandria, Louisiana
LAD 069524981**

A.I. 97707

The Uniform Federal Policy for Implementing Environmental Quality Systems (UFP) was developed as a joint initiative between the EPA, the Department of Defense (DoD), and the Department of Energy (DOE), to consistently implement the quality system requirements of ANSI/ASQC E4-1994. On December 21, 2005, OSWER issued a Memorandum informing Regional Science and Policy Directors that QA Project Plans prepared and approved according to the UFP meets all the QA Project Plan requirements issued by the Office of Environmental Information (QA/R-5).

**Final - May 1, 2013
QTRAK 13-238**

INTRODUCTION

All environmental monitoring and measurement efforts mandated or supported by the U.S. Environmental Protection Agency (EPA) are subject to a centrally managed quality assurance (QA) system. A QA system is a structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products, and services. The EPA QA system is based on an American National Standard, ANSI/ASQC E4-1994.

The Uniform Federal Policy for Implementing Environmental Quality Systems (UFP) was developed as a joint initiative between the EPA, the Department of Defense (DoD), and the Department of Energy (DOE), to consistently implement the quality system requirements of ANSI/ASQC E4-1994. The UFP was transmitted to EPA Regional Administrators in June 2005 (EPA Directive 9272.0-17) from the Office of Solid Waste and Emergency Response (OSWER). The directive determined the scope of the UFP to include mainly federal facilities, but also extends the UFP documentation more broadly for data collection projects conducted under CERCLA and RCRA. Directive 9272.0-17 also states that Regions are strongly encouraged to consider the use of the UFP for other purposes including the RCRA corrective action program, as well as data collection related to the active management of hazardous waste generated by RCRA facilities. On December 21, 2005, OSWER issued a Memorandum informing Regional Science and Policy Directors that QA Project Plans prepared and approved according to the UFP meets all the QA Project Plan requirements issued by the Office of Environmental Information (QA/R-5).

In response to these directives and QA requirements, EPA has prepared this combined QA Project Plan (QAPP) and Field Sampling and Analysis Plan which presents the overall project description, project organization, responsibilities, and QA objectives associated with the phased assessment to be conducted. This site-specific combined QA Project Plan and Field Sampling and Analysis Plan comply with all QA requirements and have undergone peer-review. This document was developed through a transparent and collaborative process including intra and inter-agency use and sharing, and sharing and distributing information in correspondence directed to certain key individuals and persons.

The purpose of this project is to collect off-site surface soil/sediment samples and perform related activities at the Colfax Creosoting/Roy O. Martin site in Alexandria, Louisiana. Data obtained during this effort will be used to support EPA Region 6 in meeting site-wide remedy selection and remedy construction completion goals under the Government Performance and Results Act (GPRA) for Fiscal Year 2020. Specifically, the off-site surface soil/sediment analytical data will be used to determine the current status on concentrations of chemicals of concern in surface soils/sediment to determine offsite extent of contamination. Soil/sediment results will be compared to RECAP SOIL_SSni (non-industrial) values.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling
Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling
Revision 0
Date: May 1, 2013

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TABLE OF CONTENTS

Introduction.....	5
QAPP Worksheet #1. Title and Approval Page	6
QAPP Worksheet #2. QAPP Identifying Information	7
QAPP Worksheet #3. Distribution List	12
QAPP Worksheet #4. Project Personnel Sign-Off Sheet.....	13
QAPP Worksheet #5. Project Organizational Chart	14
QAPP Worksheet #6. Communication Pathways	15
QAPP Worksheet #7. Personnel Responsibilities and Qualifications Table.....	16
QAPP Worksheet #8. Special Personnel Training Requirements Table	17
QAPP Worksheet #9. Project Scoping Session Participants Sheet	18
QAPP Worksheet #10. Problem Definition	19
QAPP Worksheet #11. Project Quality Objectives/Systematic Planning Process Statements	20
QAPP Worksheet #12. Measurement Performance Criteria Table	22
QAPP Worksheet #13. Secondary Data Criteria and Limitations Table	23
QAPP Worksheet #14. Summary of Project Tasks.....	24
QAPP Worksheet #15. Reference Limits and Evaluation Table.....	26
QAPP Worksheet #16. Project Schedule/Timeline Table	29
QAPP Worksheet #17. Sampling Design and Rationale	30
QAPP Worksheet #18. Sampling Locations and Methods/SOP Requirements Table	31
QAPP Worksheet #19. Analytical SOP Requirements Table	32
QAPP Worksheet #20. Field Quality Control Sample Summary Table	33
QAPP Worksheet #21. Project Sampling SOP Reference Table	34
QAPP Worksheet #22. Field Equipment Calibration, Maintenance, Testing, and Inspection Table	35
QAPP Worksheet #23. Analytical SOP Reference Table	36
QAPP Worksheet #24. Analytical Instrument Calibration Table	37
QAPP Worksheet #25. Analytical Instrument and Equipment Maintenance, Testing, and Inspection Table	38
QAPP Worksheet #26. Sample Handling System	39
QAPP Worksheet #27. Sample Custody Requirements	40
QAPP Worksheet #28. QC Samples Table	41
QAPP Worksheet #29. Project Documents and Records Table.....	42
QAPP Worksheet #30. Analytical Services Table.....	43
QAPP Worksheet #31. Planned Project Assessment Table.....	44
QAPP Worksheet #32. Assessment Findings and Response Actions	44
QAPP Worksheet #33. QA Management Reports Table	44
QAPP Worksheet #34. Sampling and Analysis Verification (Step I) Process Table	45
QAPP Worksheet #35. Sampling and Analysis Validation (Steps IIa and IIb) Process Table	45
QAPP Worksheet #36. Sampling and Analysis Validation (Steps IIa and IIb) Summary Table	45
QAPP Worksheet #37. Data Usability Assessment.....	46

Appendix A Figures

INTRODUCTION

Site Overview

The Colfax Roy O. Martin (ROM) site is a GPRA site conducting cleanup and closure under a *Final Hazardous Waste Post-Closure Permit Renewal – Post-Closure Permit (LAD008-184-616-PC-RN-1)*, effective October 22, 2007, issued by the LDEQ. The HSWA portion of the post-closure permit requires investigation and corrective action of all contaminated media, both on-site and off-site, for all Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs), as identified in the post-closure permit. Colfax (ROM) Treating Company has completed RFI investigations of all onsite units. To determine the extent of contamination in soils and groundwater at potential offsite locations, ROM completed sampling in February and October 2012 at the eastern continuance of the former Chatlin Lake Canal and adjacent to Hynson Bayou at sampling locations directly on the property boundary. ROM sampling results show non-detect at the property boundary. EPA and LDEQ is combining efforts to collect additional off-site samples to further investigate potential off-site releases (using the EPA laboratory). These determinations are necessary for LDEQ to code the CA400 for site-wide remedy for this GPRA site.

Site Description, History & Background

The Colfax Treating Company, LLC (formerly Durawood Treating Company) property is located at 3600 Koppers Street in Alexandria, Rapides Parish, Louisiana. The American Lumber and Treating Company originally constructed the wood preservation facility in 1926. In 1944, Koppers Company, Inc., (Koppers Company, Inc. was purchased by Beazer East, Inc. in 1988) purchased and operated the wood preservation facility utilizing creosote and pentachlorophenol in the process

In 1970, the facility and property was purchased by the Roy O. Martin Lumber Company, Inc., and began operations under the name Durawood Treating Company utilizing creosote and on-site generated used oil in the wood preservation process. In December of 1999, Railworks Wood Products, Inc., purchased the wood preservation facility to continue operations under the business name of Dura-Wood, LLC (Dura-Wood, LLC filed for protection under the U.S. Bankruptcy Code in 2001). Colfax Treating Company, LLC, (a subsidiary of the Roy O. Martin Lumber Company, Limited Partnership) retained ownership and responsibility of the northeastern portion of the property containing the two closed hazardous waste management units, groundwater monitoring wells, groundwater recovery wells, and most of the piezometers. The property retained by Colfax Treating Company, LLC contains approximately 11.87 acres. (See **Appendix A Figure 1.**)

In 1986, Durawood Treating Company completed closure of the vacuum pump cooling water ponds and a portion of the former Chatlin Lake Canal that crossed the property as RCRA Treatment, Storage and Disposal (TSD) units. On September 30, 1994, the LDEQ issued Durawood Treating Company a Final Hazardous Waste Post-Closure Permit for the two closed hazardous waste management units, effective on November 7, 1994. On September 30, 1996, the facility was issued a permit modification to include the Hazardous and Solid Waste Amendments (HSWA) provisions. The permit modification became effective on November 6, 1996, remaining in effect until November 7, 2004. The Post-Closure Permit for the facility has been renewed with an effective date of August 27, 2007.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #1 (UFP-QAPP Manual Section 2.1) -- Title and Approval Page

Site-Specific QAPP and Field SAP for the Colfax Creosoting / Roy O. Martin Soil/Sediment Sampling
Document Title

Louisiana Department of Environmental Quality (LDEQ)

Lead Organization for requirements under RCRA

Steven Archibald, LDEQ Remediation Services Division and Nancy Fagan, US EPA Multimedia Planning and Permitting

Co-Preparer's Names and Organizational Affiliation

Steven.archibald@la.gov, fagan.nancy@epa.gov

Co-Preparer's E-mail Addresses

03/March/2013

Preparation Date (Day/Month/Year)

Lead Organization's Project Manager: _____

Signature

Nancy Fagan/US EPA

Printed Name/Organization/Date

Lead Organization's Project Manager: _____

Signature

Steven Archibald, LDEQ

Printed Name/Organization/Date

Approval Signatures: _____

Signature

Randall Rush, Chief State and Tribal Oversight Section

Printed Name/Title/Date

Approval Authority _____ (initial)

Signature

Carey Dicharry,

Printed Name/Title/Date

Approval Authority _____ (initial)

EPA Region 6 QA Review Signature:

Linh Nguyen, Multimedia Planning and Permitting Division, 6PD-M

Printed Name/Title/Organization/Date

QAPP Worksheet #2 (UFP-QAPP Manual Section 2.2.4) -- QAPP Identifying Information

Site Number/Code: Colfax Creosoting /Roy O. Martin / LAD069524981/ AI 97707

Operable Unit: N/A

Contractor Name: N/A

Contractor Number: N/A

Contract Title: N/A

Task Order Number: N/A

1. Identify guidance used to prepare QAPP: EPA Directive 9272.0-17
2. Identify regulatory program: Resource Conservation and Recovery Act (RCRA)
3. Identify approval entity: Louisiana Department of Environmental Quality (LDEQ)
4. Indicate whether the QAPP is a generic or a project-specific QAPP. (circle one)
5. List dates of scoping sessions that were held: Site-specific scoping for Colfax Creosoting / Roy O. Martin/ April 24, 2013
6. List dates and titles of QAPP documents written for previous site work, if applicable:

Title	Received Date
NA	

7. List organizational partners (stakeholders) and connection with lead organization:
LDEQ and U.S. EPA Region 6
8. List data users: LDEQ and U.S. EPA Region 6
9. If any required QAPP elements and required information are not applicable to the project, then circle the omitted QAPP elements and required information on the attached table. Provide an explanation for their exclusion:
 - Section 4.1.2 is not applicable – no assessments are currently planned to review the investigation once it commences.
 - Section 5.2 is not applicable – no third-party data validation is required.
 - Section 5.3 is not applicable-as there is no streamlining data review step.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

Circle QAPP elements and required information that are not applicable to the project. Provide an explanation in the QAPP.

Required QAPP Element(s) and Corresponding QAPP Section(s)	Crosswalk to Required Documents	Optional QAPP Worksheet # in QAPP Workbook	Required Information
Project Management and Objectives			
2.1 Title and Approval Page		1	- Title and Approval Page
2.2 Document Format and Table of Contents 2.2.1 Document Control Format 2.2.2 Document Control Numbering System 2.2.3 Table of Contents 2.2.4 QAPP Identifying Information		2	- Table of Contents - QAPP Identifying Information
2.3 Distribution List and Project Personnel Sign-Off Sheet 2.3.1 Distribution List 2.3.2 Project Personnel Sign- Off Sheet		3 4	- Distribution List - Project Personnel Sign-Off Sheet
2.4 Project Organization 2.4.1 Project Organizational Chart 2.4.2 Communication Pathways 2.4.3 Personnel Responsibilities and Qualifications 2.4.4 Special Training Requirements and Certification		5 6 7 8	- Project Organizational Chart - Communication Pathways - Personnel Responsibilities and Qualifications Table - Special Personnel Training Requirements Table
2.5 Project Planning/Problem Definition 2.5.1 Project Planning (Scoping) 2.5.2 Problem Definition, Site History, and Background		9 10	- Project Planning Session Documentation (including Data Needs tables) - Project Scoping Session Participants Sheet - Problem Definition, Site History, and Background - Site Maps (historical and present)
2.6 Project Quality Objectives and Measurement Performance Criteria 2.6.1 Development of Project Quality Objectives Using the Systematic Planning Process		11 12	- Site-Specific PQOs - Measurement Performance Criteria Table

Required QAPP Element(s) and Corresponding QAPP Section(s)	Crosswalk to Required Documents	Optional QAPP Worksheet # in QAPP Workbook	Required Information
2.6.2 Measurement Performance Criteria			
2.7 Secondary Data Evaluation		13	<ul style="list-style-type: none"> - Sources of Secondary Data and Information - Secondary Data Criteria and Limitations Table
2.8 Project Overview and Schedule		14 15	<ul style="list-style-type: none"> - Summary of Project Tasks - Reference Limits and Evaluation Table
2.8.1 Project Overview			
2.8.2 Project Schedule		16	<ul style="list-style-type: none"> - Project Schedule/Timeline Table
Measurement/Data Acquisition			
3.1 Sampling Tasks		17	<ul style="list-style-type: none"> - Sampling Design and Rationale
3.1.1 Sampling Process Design and Rationale		18	<ul style="list-style-type: none"> - Sample Location Map
3.1.2 Sampling Procedures and Requirements		19	<ul style="list-style-type: none"> - Sampling Locations and Methods/ SOP Requirements Table
3.1.2.1 Sampling Collection Procedures		20	<ul style="list-style-type: none"> - Analytical Methods/SOP Requirements Table
3.1.2.2 Sample Containers, Volume, and Preservation		21	<ul style="list-style-type: none"> - Field Quality Control Sample Summary Table
3.1.2.3 Equipment/Sample Containers Cleaning and Decontamination Procedures		22	<ul style="list-style-type: none"> - Sampling SOPs - Project Sampling SOP References Table
3.1.2.4 Field Equipment Calibration, Maintenance, Testing, and Inspection Procedures			<ul style="list-style-type: none"> - Field Equipment Calibration, Maintenance, Testing, and Inspection Table
3.1.2.5 Supply Inspection and Acceptance Procedures			
3.1.2.6 Field Documentation Procedures			
3.2 Analytical Tasks			<ul style="list-style-type: none"> - Analytical SOPs
3.2.1 Analytical SOPs		23	<ul style="list-style-type: none"> - Analytical SOP References Table
3.2.2 Analytical Instrument Calibration Procedures		24	<ul style="list-style-type: none"> - Analytical Instrument Calibration Table
3.2.3 Analytical Instrument and Equipment Maintenance, Testing, and Inspection Procedures		25	<ul style="list-style-type: none"> - Analytical Instrument and Equipment Maintenance, Testing, and Inspection Table
3.2.4 Analytical Supply Inspection and			

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

Required QAPP Element(s) and Corresponding QAPP Section(s)	Crosswalk to Required Documents	Optional QAPP Worksheet # in QAPP Workbook	Required Information
Acceptance Procedures			
3.3 Sample Collection Documentation, Handling, Tracking, and Custody Procedures 3.3.1 Sample Collection Documentation 3.3.2 Sample Handling and Tracking System 3.3.3 Sample Custody		26	<ul style="list-style-type: none"> - Sample Collection Documentation Handling, Tracking, and Custody SOPs - Sample Container Identification - Sample Handling Flow Diagram - Example Chain-of-Custody Form and Seal
3.4 Quality Control Samples 3.4.1 Sampling Quality Control Samples 3.4.2 Analytical Quality Control Samples		27	<ul style="list-style-type: none"> - QC Samples Table - Screening/Confirmatory Analysis Decision Tree
3.5 Data Management Tasks 3.5.1 Project Documentation and Records 3.5.2 Data Package Deliverables 3.5.3 Data Reporting Formats 3.5.4 Data Handling and Management 3.5.5 Data Tracking and Control		28 29 30	<ul style="list-style-type: none"> - Project Documents and Records Table - Analytical Services Table - Data Management SOPs
Assessment/Oversight			
4.1 Assessments and Response Actions 4.1.1 Planned Assessments 4.1.2 Assessment Findings and Corrective Action Responses		31 32	<ul style="list-style-type: none"> - Assessments and Response Actions - Planned Project Assessments Table - Audit Checklists - Assessment Findings and Corrective Action Responses Table
4.2 QA Management Reports		33	<ul style="list-style-type: none"> - QA Management Reports Table
4.3 Final Project Report			

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

Required QAPP Element(s) and Corresponding QAPP Section(s)	Crosswalk to Required Documents	Optional QAPP Worksheet # in QAPP Workbook	Required Information
Data Review			
5.1 Overview			
5.2 Data Review Steps			
5.2.1 Step I: Verification		34	- Verification (Step I) Process Table
5.2.2 Step II: Validation			- Validation (Steps IIa and IIb) Process Table
5.2.2.1 Step IIa Validation Activities		35	- Validation (Steps IIa and IIb) Summary Table
5.2.2.2 Step IIb Validation Activities		36	- Usability Assessment
5.2.3 Step III: Usability Assessment		37	
5.2.3.1 Data Limitations and Actions from Usability Assessment			
5.2.3.2 Activities			
5.3 Streamlining Data Review			
5.3.1 Data Review Steps To Be Streamlined			
5.3.2 Criteria for Streamlining Data Review			
5.3.3 Amounts and Types of Data Appropriate for Streamlining			

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/ Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #3 (UFP-QAPP Manual Section 2.3.1) -- Distribution List:

List those entities to whom copies of the approved QAPP, subsequent QAPP revisions, addenda, and amendments are sent.

QAPP Recipients	Title	Organization	Telephone Number	Fax Number	E-mail Address	Document Control Number
Steven Archibald		LDEQ	318-362-3048		Steven.archibald@la.gov	QTRAK 13-238
Nancy Fagan		U.S. EPA	214-665-8385	214-665-7263	fagan.nancy@epa.gov	QTRAK 13-238
Christy Warren		U.S. EPA	281-983-2137		Warren.christy@epa.gov	QTRAK 13-238

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/ Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #4 (UFP-QAPP Manual Section 2.3.2) -- Project Personnel Sign-Off Sheet

Have copies of this form signed by key project personnel from each organization to indicate that they have read the applicable QAPP sections and will perform the tasks as described. Ask each organization to forward signed sheets to the central project file.

Organization: LDEQ

Project Personnel	Title	Telephone Number	Signature	Date QAPP Read Email Receipt
Steven Archibald	Sr. Environmental Geologist	318-362-3048		

Organization: U.S. EPA

Project Personnel	Title	Telephone Number	Signature	Date QAPP Read Email Receipt
Nancy Fagan	Environmental Engineer	214-665-8385		
Christy Warren	Chemist	281-983-2137		

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/ Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

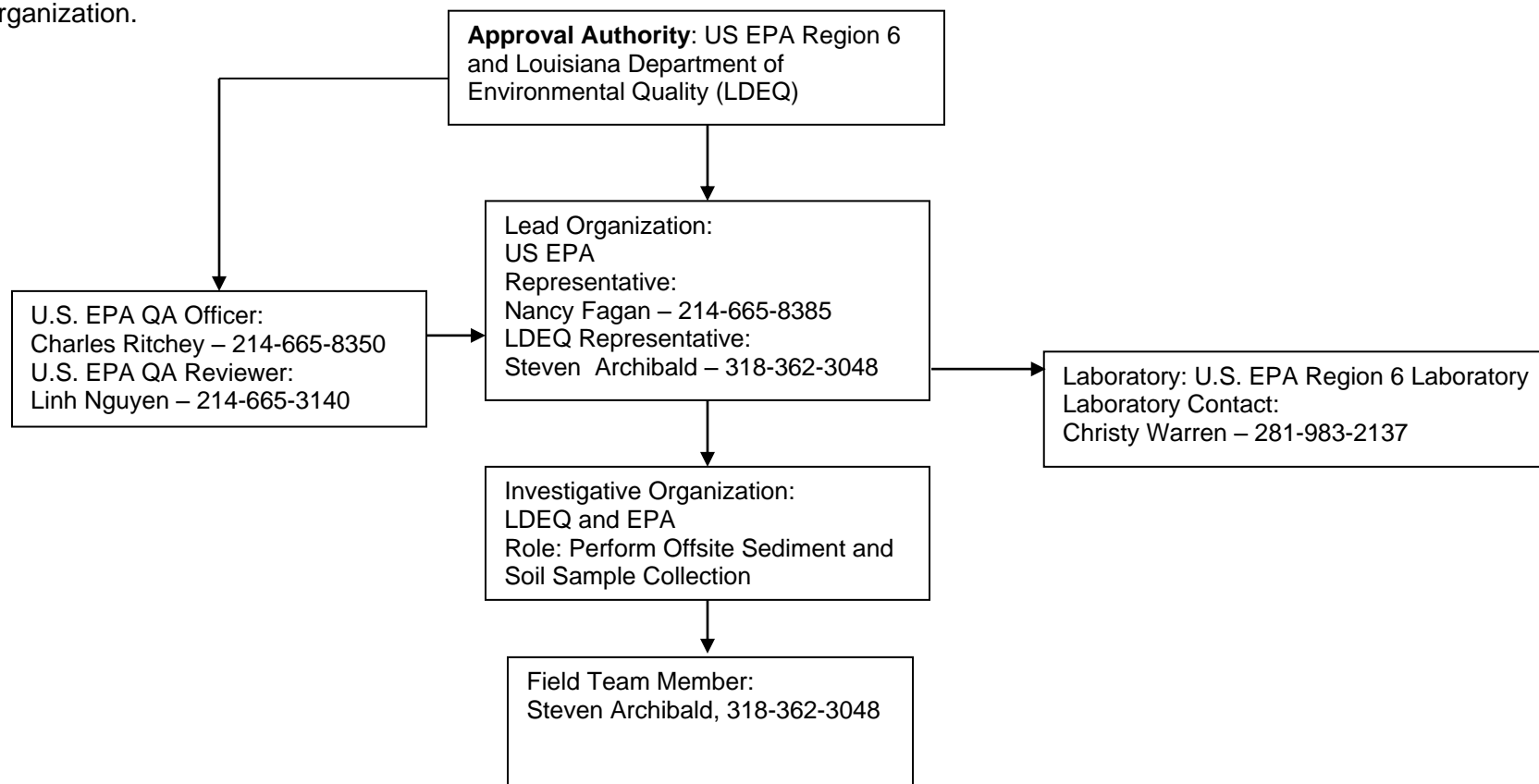
Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #5 (UFP-QAPP Manual Section 2.4.1) -- Project Organizational Chart

Identify reporting relationships between all organizations involved in the project, including the lead organization and all contractors and subcontractor organizations. Identify the organizations providing field sampling, on-site and off-site analysis, and data review services, including the names and telephone numbers of all project managers, project team members, and/or project contacts for each organization.



Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/ Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #6 (UFP-QAPP Manual Section 2.4.2) -- Communication Pathways

Describe the communication pathways and modes of communication that will be used during the project, after the QAPP has been approved. Describe the procedures for soliciting and/or obtaining approval between project personnel, between different contractors, and between samplers and laboratory staff. Describe the procedure that will be followed when any project activity originally documented in an approved QAPP requires real-time modification to achieve project goals or a QAPP amendment is required. Describe the procedures for stopping work and identify who is responsible.

Communication Drivers	Responsible Entity	Name	Phone Number	Procedure (timing, pathways, etc.)
Significant modification to QA Plan/Work Plan	QA Officer	Charles Ritchey	214-665-8350	Modify the QA Plan as necessary
Make changes as necessary to comply with QA requirements	QA Reviewer	Linh Nguyen	214-665-3104	Review QAPP for QA
Make changes to QAPP as instructed by QA Reviewer	Project Coordinator	Nancy Fagan	214-665-8385	Make changes to comply with QA requirements, as instructed by QA Reviewer
Change in sampling protocol or other sampling deviation	Field Team Leader	Steven Archibald	318-362-3048	Document in field notes, chain of custody and transfer information to final report.
Laboratory Documentation for QA requirements	Laboratory Officer	Christy Warren	281-983-2137	Receive samples and document laboratory analyses procedures. Send final analyses report to EPA and LDEQ

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/ Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #7 (UFP-QAPP Manual Section 2.4.3) -- Personnel Responsibilities and Qualifications Table

Identify project personnel associated with each organization, contractor, and subcontractor participating in responsible roles. Include data users, decision-makers, project managers, QA officers, project contacts for organizations involved in the project, project health and safety officers, geotechnical engineers and hydrogeologists, field operation personnel, analytical services, and data reviewers. Identify project team members with an asterisk (*). Attach resumes to this worksheet or note the location of the resumes.

Name	Title	Organizational Affiliation	Responsibilities	Education and Experience Qualifications
Steven Archibald	Sr. Environmental Geologist Field Team Leader, H&S	LDEQ	Project Management Coordinate field activities, conduct off-site soil/sediment and groundwater sampling	N/A*
Nancy Fagan	Project Coordinator and Environmental Engineer	EPA Region 6	Project Management Coordinate field activities Coordinate QAPP review	N/A*
Christy Warren	Chemist	EPA Region 6 Laboratory	Data Analysis/data verification	N/A*
* No contractors are utilized for this sampling event, so there are no resumes to document.				

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/ Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #8 (UFP-QAPP Manual Section 2.4.4) -- Special Personnel Training Requirements Table

Provide the following information for those projects requiring personnel with specialized training. Attach training records and/or certificates to the QAPP or note their location.

Project Function	Specialized Training By Title or Description of Course	Training Provider	Training Date	Personnel / Groups Receiving Training	Personnel Titles / Organizational Affiliation	Location of Training Records / Certificates¹
Field Activities	40-Hour HAZWOPER and annual 8-hour Refresher	OSHA	2013 Current	Steven Archibald	Sample Team Lead/ Soil and groundwater sampler	LDEQ Baton Rouge office and Monroe office

¹ If training records and/or certificates are on file elsewhere, document their location in this column. If training records and/or certificates do not exist or are not available, then this should be noted.

QAPP Worksheet #9 (UFP-QAPP Manual Section 2.5.1) -- Project Scoping Session Participants Sheet

Complete this worksheet for each project scoping session held. Identify project team members who are responsible for planning the project. The following is the generic form used for scoping meetings.

Project Name: <u>Colfax Creosoting/ Roy O. Martin Sampling</u>		Site Name: <u>Colfax Creosoting/ Roy O. Marin Sampling</u>			
Projected Date(s) of Sampling: <u>May 14 – 15, 2013</u>		Site Location: <u>Alexandria, Louisiana</u>			
Date of Session: <u>Scoping conference call scheduled for April 24, 2013</u>					
Scoping Session Purpose: <u>To discuss logistics for the off-site sampling activities</u>					
Name	Title	Affiliation	Phone #	E-mail Address	Project Role
Nancy Fagan	Environmental Engineer	U.S. EPA	214-665-8385	fagan.nancy@epa.gov	EPA Support
Christy Warren	EPA Lab - Houston	U.S. EPA	281-983-2137	Warren.christy@epa.gov	EPA Lab Support
Steven Archibald	LDEQ	LDEQ	318-362-3048	steven.archibald@la.gov	State Technical Support

Comments/Decisions: Based on a conference call held on April 24, 2013, sampling dates will be May 14 - 15, 2013. Shipments to the EPA laboratory must be sent on a daily basis, and must arrive at the laboratory on a weekday (i.e., no shipment initiation on Friday).

Action Items: NA

Consensus Decisions: NA

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #10 (UFP-QAPP Manual Section 2.5.2) -- Problem Definition

The problem to be addressed by the project: Data obtained during this effort will be used to support EPA Region 6 in meeting site-wide remedy selection and remedy construction completion goals under the Government Performance and Results Act (GPRA) to be attained before Fiscal Year 2020. The off-site surface soil/sediment and groundwater analytical data will be used to determine the current status on concentrations of chemicals of concern in off-site surface soils/sediment and groundwater.

The environmental questions being asked: Are analytical results above Louisiana Department of Quality (LDEQ) Risk Evaluation Corrective Action Program (RECAP) screening option (SO) non-industrial soil screening standards (SOIL_SSni) for soil. Are the analytical results suitable for EPA and/or LDEQ to use the data for RCRA corrective action decisions?

Observations from any site reconnaissance reports: N/A

A synopsis of secondary data or information from site reports: Previous investigations have identified creosote components and PAHs as the COCs at the site.

QAPP Worksheet #10 (UFP-QAPP Manual Section 2.5.2) -- Problem Definition (continued)

The possible classes of contaminants and the affected matrices:

Surface soil: Semi-volatile organic compounds (SVOCs)

The rationale for inclusion of chemical and nonchemical analyses: The purpose of the investigation is to determine current analyte concentrations in off-site soil/sediment and groundwater and to compare these concentrations to data collected in the past.

Information concerning various environmental indicators: The CA725 and CA750 have been completed; the site is currently near CA400 stage.

Project decision conditions (If..., then...@ statements): If sample collection results show evidence of historical releases to the offsite areas, the EPA will consider (with LDEQ input) issuing a RCRA 3013 to the past owners/operators of the Creosoting facility to determine the extent of the offsite release.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #11 (UFP-QAPP Manual Section 2.6.1) -- Project Quality Objectives/Systematic Planning Process Statements

Use this worksheet to develop project quality objectives (PQOs) in terms of type, quantity, and quality of data determined using a systematic planning process. Provide a detailed discussion of PQOs in the QAPP. List the PQOs in the form of qualitative and quantitative statements. These statements should answer questions such as those listed below. These questions are examples only, however; they are neither inclusive nor appropriate for all projects.

Who will use the data? Data will be used by the U.S. EPA Multimedia Planning and Permitting Division and the Louisiana Department of Environmental Quality (LDEQ).

What will the data be used for? All of the data and information will be used to evaluate current off-site status on concentrations of COCs and appropriate RCRA corrective actions for Colfax Creosoting/Roy O. Martin site.

What types of data are needed (matrix, target analytes, analytical groups, field screening, on-site analytical or off-site laboratory techniques, sampling techniques)? Contaminant concentrations (SVOCs) will be measured in off-site soil/sediment. This plan has been prepared to allow for collection and analysis of soil/sediment samples from five (5) surface soil sample locations depicted in **Appendix A Figure 2**. The samples will be sent to an off-site laboratory (EPA Region 6 Houston Lab) for analysis.

Matrix: To accomplish the objectives of this QAPP, environmental samples will be collected as follows (note: specific sampling locations will be identified by EPA and/or LDEQ in the field):

Soil: Six (6) off-site surface soils/sediment samples ranging between 0 – 6 inches below ground surface (bgs) will be collected from five (5) separate areas located off site (including one duplicate sample). The exact locations for all soil samples will be determined by LDEQ field personnel in the field and will be recorded by GPS coordinates. Soil/sediment samples will be shipped to the EPA Region 6 laboratory in Houston, TX for SVOC analysis.

How “good” do the data need to be in order to support the environmental decision? The data shall meet all QA/QC criteria defined within this document.

How much data are needed (number of samples for each analytical group, matrix, and concentration)? Six (6) offsite surface soil/sediment samples are needed to determine if contaminant concentrations are present and above the RECAP screening levels. GPS locations will be collected for each soil sampling location.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #11 (UFP-QAPP Manual Section 2.6.1) -- Project Quality Objectives/Systematic Planning Process Statements (continued)

Where, when, and how should the data be collected/generated? The field sampling for collection of surface soil and groundwater samples will occur during the week of May 13, 2013. Samples will be collected and shipped to EPA Houston Lab for analysis each day.

Who will collect and generate the data? LDEQ personnel will collect the grab surface soil samples, as well as the groundwater samples. EPA and/or LDEQ field personnel will identify the surface soil sampling locations in the field.

Surface Soil/sediment Sampling

LDEQ will collect approximately six (6) surface soil samples, ranging between 0-6 inches bgs at five locations depicted in **Appendix A Figure 2**. LDEQ personnel will collect soil samples using a hand auger in accordance with the EPA-approved SOP for Soil/sediment Sampling Procedures, and Sample Management Procedures. After collection, the samples will be placed into the appropriate sample container for SVOC soil analysis. Exact locations of all grab soil/sediment samples will be determined by LDEQ personnel. GPS locations will be obtained for each grab sample. Appropriate quality control samples will also be collected.

QAPP Worksheet #11 (UFP-QAPP Manual Section 2.6.1) -- Project Quality Objectives/Systematic Planning Process Statements (continued)

Soil/sediment will be analyzed for SVOCs (EPA Method 8270). All analyses will be performed by EPA Houston Lab and will have a 35-day turn-around-time (per arrangement between the EPA PM and the EPA Houston Lab). On the evening of collection, samples for analysis will be sent via overnight courier to the laboratory in Houston, Texas.

How will the data be reported? Data will be reported by the EPA Region 6 laboratory and results will be submitted to EPA and LDEQ at the same time. . Analytical results will be compared to appropriate LDEQ RECAP screening levels in a subsequent Trip Report to be compiled by EPA and LDEQ.

How will the data be archived? Data will be archived by LDEQ.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #12 (UFP-QAPP Manual Section 2.6.2) -- Measurement Performance Criteria Table

Complete this worksheet for each matrix, analytical group, and concentration level. Identify the data quality indicators (DQIs), measurement performance criteria (MPC), and QC sample and/or activity used to assess the measurement performance for both the sampling and analytical measurement systems. Use additional worksheets if necessary. If MPC for a specific DQI vary within an analytical parameter, i.e., MPC are analyte-specific, then provide analyte-specific MPC on an additional worksheet.

Measurement Performance Criteria Table
Worksheet #12-1

Matrix	<i>Solid</i>				
Analytical Group¹	SVOC				
Concentration Level	Low				
Sampling Procedure²	Analytical Method/SOP³	Data Quality Indicators (DQIs)	Measurement Performance Criteria	QC Sample and / or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Surface Soil collection with hand auger	EPA SW-846 Method 8270C (per EPA Region 6 Laboratory SOPs)	Precision-Lab	RPD < 20%	Sample Duplicate	A
		Accuracy-Bias	NA	NA	NA
		Accuracy/Bias-Contamination	NA	NA	NA
		Sensitivity	NA	NA	NA
		Completeness	90%	valid data/total data	S&A

¹If information varies within an analytical group, separate by individual analyte.²Reference number from QAPP Worksheet #21 (see Section 3.1.2).³Reference number from QAPP Worksheet #23 (see Section 3.2.1).

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #13 (UFP-QAPP Manual Section 2.7) -- Secondary Data Criteria and Limitations Table

Identify all secondary data and information that will be used for the project and their originating sources. Specify how the secondary data will be used and the limitations on their use. Each project specific area must include any limitations on use of the data in the final report. Data from each project specific area is accumulated in the final site report and the limits on data use must be presented.

Secondary Data	Data Source (originating organization, report title and date)	Data Generator(s) (originating organization, data types, data generation / collection dates)	How Data Will Be Used	Limitations on Data Use
Background information	LDEQ All Colfax reports are filed in EDMS under AI #97707	LDEQ EDMS	reconnaissance level data	For comparison to RECAP screening levels for non-industrial only

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #14 (UFP-QAPP Manual Section 2.8.1) -- Summary of Project Tasks

Provide a brief overview of the listed project activities. The following table must be completed for each project area.

Sampling Tasks:

Surface soil: Six (6) surface soil samples from a depth of 0-6 inches will be collected at five (5) locations identified by LDEQ personnel in the field. Surface soil samples will be analyzed for SVOCs. GPS locations will be collected for all soil sample locations.

Analysis Tasks: SVOCs samples will be analyzed by EPA Houston Lab. The evening of collection, the samples will be shipped via overnight courier to EPA Houston laboratory in Houston, Texas.

Quality Control Tasks:

All matrices will have the following types of QC samples analyzed as necessary: field duplicates, matrix spikes, matrix spike duplicates, and equipment rinsate blanks. All analytical methods will perform: calibrations, tuning, reagent blanks, surrogates, replicates, laboratory control spikes, and all other applicable QC as necessary.

Quality Assurance (QA) samples will be collected as follows: field duplicate samples at a frequency of ten percent (%) or one for every ten (10) samples obtained per matrix, and additional volume for laboratory quality control (QC) analysis (i.e., matrix spike/matrix spike duplicate [MS/MSD]) at a frequency of 5% or one for every 20 samples obtained for groundwater, equipment rinsate blank samples at a frequency of five percent (%) or one for every 20 samples obtained per matrix where non-dedicated sampling equipment is used.

All samples that are obtained will be properly preserved, according to the specifications in the methods, and delivered/shipped to the laboratory in well-sealed, labeled coolers. Sufficient ice will be added to the coolers to maintain a temperature of 4 ± 2 °C. Custody seals will be placed on the outside lids of the coolers. The shipping and chain of custody (COC) procedures are described below for the Colfax Creosoting/ Roy O. Martin sampling event. The containers, preservatives, and holding times for each analytical parameter are summarized in Worksheet 19.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #14 (UFP-QAPP Manual Section 2.8.1) -- Summary of Project Tasks (continued)

Provide a brief overview of the listed project activities. The following table must be completed for each project area.

Documentation and Records: All samples collected will be recorded in logbooks with all field measurements. Due to the evidentiary nature of samples collected, possession must be traceable from the time the samples are collected until their derived data are introduced as evidence in legal proceedings. To ensure that samples are secure from tampering, COC documentation is utilized to provide a traceable record of sample custody. The sampling team members are responsible for the care and custody of the samples collected until they are properly transferred to the shipping company or laboratory. In addition, the sampling team members will ensure that samples are collected, maintained, and transferred in accordance with approved SOPs and COC requirements and will, to the extent possible, determine the quantity and types of samples and sample locations prior to the actual fieldwork. As few people as possible shall handle samples. Sample labels will be completed for each sample, using waterproof ink. The sampling team members will maintain custody in the field by ensuring that the samples are accompanied by the COC documentation and are kept in a cooler that is within the line of sight or in a locked storage location from the time of collection until relinquished by signature and physical custody to the shipper.

Sample Numbering Scheme: Soil samples will be labeled with the matrix type, sample location, and sample number. For example, **SS-LE-01** would be a surface soil sample from the LE-01 location as depicted in **Appendix A Figure 2**. Matrix designations are as follows:

SS = Surface Soil

LE = LDEQ/EPA sampling location

Field duplicates will be submitted to the laboratory blind. Field duplicates will be identified as additional sample locations with an arbitrary sample location code. One location will be used for the collection of a field duplicate sample (as determined in the field by EPA and/or LDEQ). The associated locations of the field duplicate samples will be recorded in the field log book with the appropriate sample collection times along with the laboratory blind identifiers. All other QC samples will be identified using the following designations:

Secondary Data: Secondary analytical data from regulated facilities, if available, will be utilized as appropriate. Secondary data must meet the QA/QC requirements of this project in order to be suitable for use, and any data limitations will be documented.

Other Data: NA

Data Management Tasks: Analytical data will be placed in a database (Excel spreadsheet). Secondary data deemed valuable and meeting QA/QC requirements will be added as appropriate. GPS coordinates will be documented in the field for each sampling location. Photographic documentation will also be collected during field activities.

Assessment / Audit Tasks: Field sampling SOPs and this QAPP will be reviewed during the course of sampling to ensure consistency, and to account for any changes in the plan that need to be documented.

Data Review Tasks: Data will be reviewed, the usability assessed, and comparisons made with project objectives. Sample analytical error will be reviewed and data limitations determined. Data will be placed into databases, tables, charts, and graphs as necessary for data review and interpretations. Data will be verified for completeness, but no data validation will be performed by Booz Allen as part of the planned project. Any data validation will be the responsibility of EPA.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #15 (UFP-QAPP Manual Section 2.8.1) -- Reference Limits and Evaluation Table

Complete this worksheet for each matrix, analytical group, and concentration level. Identify the target analytes/contaminants of concern and project-required action limits. Next, determine the quantitation limits (QLs) that must be met to achieve the project quality objectives. Finally, list the published and achievable detection and quantitation limits for each analyte.

Matrix: Solid

Analytical Group: Semi-Volatile Organic Compounds (SVOCs) SW-846 Method 8270C

Concentration Level: Low

Analyte	CAS Number	LDEQ Soil Screening Level ¹ (mg/kg)	Project Action Limit (mg/kg)	Analytical Method ²		Achievable Laboratory Limits ²	
				MDLs (mg/kg)	Method QLs (mg/kg)	MDLs (mg/kg)	QLs (mg/kg)
Acenaphthene	83-32-9	3.7E+02	3.7E+02	-	-	-	-
Acenaphthylene	208-96-8	3.5E+02	3.5E+02	-	-	-	-
Acetophenone	98-86-2	-	-	-	-	-	-
Anthracene	120-12-7	2.2E+03	2.2E+03	-	-	-	-
Atrazine	1912-24-9	-	-	-	-	-	-
Benzaldehyde	100-52-7	-	-	-	-	-	-
Benzo(a)anthracene	56-55-3	6.2E-01	6.2E-01	-	-	-	-
Benzo(b)fluoranthene	205-99-2	6.2E-01	6.2E-01	-	-	-	-
Benzo(k)fluoranthene	207-08-9	6.2E+00	6.2E+00	-	-	-	-
Benzo(g,h,i)perylene	191-24-2	-	-	-	-	-	-
Benzo(a)pyrene	50-32-8	3.3E-01	3.3E-01	-	-	-	-
1,1-Biphenyl	92-52-4	2.3E+02	2.3E+02	-	-	-	-
Bis(2-chloroethoxy)methane	111-91-1	-	-	-	-	-	-
Bis(2-chloroethyl)ether	111-44-4	3.3E-01	3.3E-01	-	-	-	-
Bis(2-ethylhexyl)phthalate	117-81-7	3.5E+01	3.5E+01	-	-	-	-
4-Bromophenyl-phenylether	101-55-3	-	-	-	-	-	-
Butylbenzylphthalate	85-68-7	2.2E+02	2.2E+02	-	-	-	-
Caprolactam	105-60-2	-	-	-	-	-	-
Carbazole	86-74-8	-	-	-	-	-	-
4-Chloroaniline	106-47-8	1.6E+01	1.6E+01	-	-	-	-
4-Chloro-3-methylphenol	59-50-7	-	-	-	-	-	-
2-Chloronaphthalene	91-58-7	5.0E+02	5.0E+02	-	-	-	-
2-Chlorophenol	95-57-8	1.5E+01	1.5E+01	-	-	-	-
4-Chlorophenyl-phenylether	7005-72-3	-	-	-	-	-	-
Chrysene	218-01-9	6.2E+01	6.2E+01	-	-	-	-

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

Analyte	CAS Number	LDEQ Soil Screening Level ¹ (mg/kg)	Project Action Limit (mg/kg)	Analytical Method ²		Achievable Laboratory Limits ²	
				MDLs (mg/kg)	Method QLs (mg/kg)	MDLs (mg/kg)	QLs (mg/kg)
Dibenz(a,h)anthracene	53-70-3	3.3E-01	3.3E-01	-	-	-	-
Dibenzofuran	132-64-9	2.9E+01	2.9E+01	-	-	-	-
Di-n-butylphthalate	84-74-2	-	-	-	-	-	-
3,3-Dichlorobenzidine	91-94-1	9.7E-01	9.7E-01	-	-	-	-
2,4-Dichlorophenol	120-83-2	1.6E+01	1.6E+01	-	-	-	-
Diethylphthalate	84-66-2	6.7E+02	6.7E+02	-	-	-	-
2,4-Dimethylphenol	105-67-9	9.3E+01	9.3E+01	-	-	-	-
Dimethylphthalate	131-11-3	1.5E+03	1.5E+03	-	-	-	-
4,6-Dinitro-2-methylphenol	534-52-1	-	-	-	-	-	-
2,4-Dinitrophenol	51-28-5	7.1E+00	7.1E+00	-	-	-	-
2,4-Dinitrotoluene	121-14-2	8.9E+00	8.9E+00	-	-	-	-
2,6-Dinitrotoluene	606-20-2	4.3E+00	4.3E+00	-	-	-	-
Di-n-octylphthalate	117-84-0	2.4E+02	2.4E+02	-	-	-	-
Fluoranthene	206-44-0	2.2E+02	2.2E+02	-	-	-	-
Fluorene	86-73-7	2.8E+02	2.8E+02	-	-	-	-
Hexachlorobenzene	118-74-1	3.4E-01	3.4E-01	-	-	-	-
Hexachlorobutadiene	87-68-3	8.2E-01	8.2E-01	-	-	-	-
Hexachlorocyclopentadiene	77-47-4	1.4E+00	1.4E+00	-	-	-	-
Hexachloroethane	67-72-1	5.2E+00	5.2E+00	-	-	-	-
Indeno(1,2,3-cd)pyrene	193-39-5	6.2E-01	6.2E-01	-	-	-	-
Isophorone	78-59-1	3.4E+02	3.4E+02	-	-	-	-
2-Methylnaphthalene	91-57-6	2.2E+01	2.2E+01	-	-	-	-
2-Methylphenol	95-48-7	-	-	-	-	-	-
4-Methylphenol	106-44-5	-	-	-	-	-	-
Naphthalene	91-20-3	6.2E+00	6.2E+00	-	-	-	-
2-Nitroaniline	88-74-4	1.7E+00	1.7E+00	-	-	-	-
3-Nitroaniline	99-09-2	1.3E+01	1.3E+01	-	-	-	-
4-Nitroaniline	100-01-6	1.0E+01	1.0E+01	-	-	-	-
Nitrobenzene	98-95-3	2.2E+00	2.2E+00	-	-	-	-
2-Nitrophenol	88-75-5	-	-	-	-	-	-
4-Nitrophenol	100-02-7	3.2E+01	3.2E+01	-	-	-	-
N-Nitrosodi-n-propylamine	621-64-7	3.3E-01	3.3E-01	-	-	-	-
N-Nitrosodiphenylamine	86-30-6	9.0E+01	9.0E+01	-	-	-	-
2,2'-Oxybis (1-chloropropane)	108-60-1	-	-	-	-	-	-
Pentachlorophenol	87-86-5	2.8E+00	2.8E+00	-	-	-	-

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

Analyte	CAS Number	LDEQ Soil Screening Level ¹ (mg/kg)	Project Action Limit (mg/kg)	Analytical Method ²		Achievable Laboratory Limits ²	
				MDLs (mg/kg)	Method QLs (mg/kg)	MDLs (mg/kg)	QLs (mg/kg)
Phenanthrene	85-01-8	2.1E+03	2.1E+03	-	-	-	-
Phenol	108-95-2	1.3E+03	1.3E+03	-	-	-	-
Pyrene	129-00-0	2.3E+02	2.3E+02	-	-	-	-
1,2,4,5-Tetrachlorobenzene	95-94-3	1.2E+00	1.2E+00	-	-	-	-
2,3,4,6-Tetrachlorophenol	58-90-2	1.4E+02	1.4E+02	-	-	-	-
2,4,5-Trichlorophenol	95-95-4	5.3E+02	5.3E+02	-	-	-	-
2,4,6-Trichlorophenol	88-06-2	4.0E+01	4.0E+01	-	-	-	-

¹ Surface soil screening levels determined as SOIL_SSni LDEQ 2003 RECAP.² Per the April 24, 2013 scoping meeting, listing MDLs and QLs is not necessary since an EPA Laboratory is performing the analyses.

-- = LDEQ 2003 RECAP, SOIL_SSni values are not published for this compound.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #16 (UFP-QAPP Manual Section 2.8.2) -- Project Schedule / Timeline Table

List all project activities as well as the QA assessments that will be performed during the course of the project. Include the anticipated start and completion dates.

Activities	Organization	Dates (MM/DD/YY)		Deliverable	Deliverable Due Date
		Anticipated Date(s) of Initiation	Anticipated Date(s) of Completion		
Draft QAPP	LDEQ and US EPA	2/26/13	3/28/13		
QA Review	US EPA	Week of April 8, 2013	April 12, 2013		
US EPA Laboratory Review	US EPA Lab	Week of April 15, 2013			
Final QAPP	US EPA			Final QAPP	May 1, 2013
QA Signature Approval	US EPA		May 8, 2013		
EPA and LDEQ Approvals	LDEQ and US EPA		May 8, 2013		
Field Work and Sampling	LDEQ	May 14, 2013	May 15, 2013		
Data Analysis	US EPA Lab	May 15, 2013	June 30, 2013	US EPA Lab Report	June 30, 2013
Analytical Summary Table	LDEQ and US EPA	July 2, 2013	July 11, 2013		
Trip Report	LDEQ and US EPA	July 11, 2013	August 16, 2013	Final Trip Report	August 16, 2013

QAPP Worksheet #17 (UFP-QAPP Manual Section 3.1.1) -- Sampling Design and Rationale

Describe the project sampling approach. Provide the rationale for selecting sample locations and matrices for each analytical group and concentration level.

Describe and provide a rationale for choosing the sampling approach (e.g., grid system, biased statistical approach): LDEQ field personnel will specify sampling locations for all samples to follow possible surface water runoff pathways as located on **Figure 2**.

Describe the sampling design and rationale in terms of what matrices will be sampled, what analytical groups will and at what concentration levels, the sampling locations (including QC, critical, and background samples), the number of samples to be collected, and the sampling frequency (including seasonal considerations): Soil/sediment samples will be collected to determine the concentrations of contaminants present and the extent of contamination above applicable RECAP screening levels. Soil samples will be analyzed for SVOCs. Concentrations identified during this field effort will be compared to LDEQ 2003 RECAP screening values for residential values (non-industrial). The results of this comparison will be used by LDEQ and EPA Region 6 to support RCRA corrective action decisions.

Six (6) surface soil samples from a depth of 0-6 inches will be collected at five locations determined in the field by EPA or LDEQ personnel. Soil samples will be collected at off-site locations from the Colfax Creosoting/ Roy O. Martin site by LDEQ personnel following the general guidelines set forth in EPA-approved SOP for Soil Sampling Procedures. GPS locations will be collected for all soil sample locations. Soil samples will be collected for SVOCs, and will be shipped to the EPA laboratory in Houston, Texas for analysis.

Quality Assurance Samples:

Quality Assurance (QA) samples will be obtained in the field as follows: field duplicate samples at a frequency of ten percent (%) or one for every ten (10) samples obtained per matrix, additional volume for laboratory quality control (QC) analysis (i.e., matrix spike/matrix spike duplicate [MS/MSD] at a frequency of 5% or one for every 20 samples obtained for groundwater, and equipment blank rinsate samples at a frequency of five percent (%) or one for every 20 samples obtained per matrix. It is anticipated that two (2) field duplicate samples will be collected (one soil and one groundwater).

Investigation Derived Waste:

There will be no Investigation Derived Waste (IDW) at the Colfax Creosoting/Roy O. Martin off-site locations as all soil/sediment samples will be collected from 0 to 6 inches.

In determining if a particular management/disposal option is protective, site managers should consider the total volume of IDW, media potentially affected, location of nearest population, potential exposures to workers, and potential for environmental impacts. The OSWER guidance explains that under appropriate circumstances, a site manager may determine that returning IDW to its source is protective of human health and the environment. The guidance further explains that site managers should minimize the generation of IDW to reduce the need for special storage or disposal requirements that may result in substantial costs yet provide little or no reduction in site risks relative to the final remedial action.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #18 (UFP-QAPP Manual Section 3.1.1) -- Sampling Locations and Methods/SOP Requirements Table

List all site locations that will be sampled and include sample/ID number, if available. (Provide a range of sampling locations of ID numbers if a site has a large number.) Specify matrix and, if applicable, depth at which samples will be collected. Only a short reference for the sampling location rationale is necessary for the table. The text of the QAPP should clearly identify the detailed rationale associated with each reference. Complete all required information, using additional worksheets if necessary.

Sampling Location / ID Number	Matrix	Depth (feet)	Analytical Group	Concentration Level	Number of Samples (identify field duplicates)	EPA Sampling SOP Reference ¹	Rationale for Sampling Location
SS-LE-01	Solid	TBD	SVOCs	Low	1	US EPA Environmental Response Team SOP #2012 Soil Sampling 2/18/00 http://www.epa.gov/region6/ga/qadevtools/mo_d5_sops/soil_sampling/ertsop_2012-soil.pdf	Potential surface water runoff pathway
SS-LE-02	Solid	TBD	SVOCs	Low	1	"	Potential surface water runoff pathway
SS-LE-03	Solid	TBD	SVOCs	Low	1	"	Potential surface water runoff pathway
SS-LE-04	Solid	TBD	SVOCs	Low	1	"	Potential surface water runoff pathway
SS-LE-05	Solid	TBD	SVOCs	Low	1	"	Potential surface water runoff pathway
SS-LE-06	Solid	TBD	SVOCs	Low	1 (duplicate)	"	Potential surface water runoff pathway

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #19 (UFP-QAPP Manual Section 3.1.1) -- Analytical SOP Requirements Table

For each matrix, analytical group, and concentration level, list the analytical and preparation method/SOP and associated sample volume, container specifications, preservation requirements, and maximum holding time.

Matrix	Analytical Group	Concentration Level	Analytical and Preparation Method / SOP Reference¹	Sample Volume	Containers (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation / analysis)
Solid	SVOCs	Low	SW-846 Method 8270C EPA Houston Lab SOP	8 oz.	1 x 8 oz. glass jar	Cool to 4°C	7 days for extraction, analyzed within 40 days of extraction

¹Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #23).

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #20 (UFP-QAPP Manual Section 3.1.1) -- Field Quality Control Sample Summary Table

Summarize by matrix, analytical group, and concentration level the number of field QC samples that will be collected and sent to the laboratory.

Matrix	Analytical Group	Conc. Level	Analytical and Preparation SOP Reference ¹	No. of Sampling Locations ²	No. of Field Duplicate Pairs	No. of MS	No. of Field Blanks	No. of Equip. Blanks	No. of PT Samples	Total No. of Samples to Lab
Solid (soils)	SVOCs	Low	SW-846 Method 8270C EPA Houston Lab SOP	5	1	0	0	0	6	6

Quality Assurance (QA) samples will be collected as follows: field duplicate samples at a frequency of ten percent (%) or one for every ten (10) samples obtained per matrix. For this sampling exercise, there are 5 locations with one duplicate collected at one location that will be determined in the field by the field team leader.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #21 (UFP-QAPP Manual Section 3.1.2) -- Project Sampling SOP References Table

List all SOPs associated with project sampling including, but not limited to, sample collection, sample preservation, equipment cleaning and decontamination, equipment testing, inspection and maintenance, supply inspection and acceptance, and sample handling and custody. Include copies of the SOPs as attachments or reference all in the QAPP. Sequentially number sampling SOP references in the Reference Number column. The reference number can be used throughout the QAPP to refer to a specific SOP.

Reference Number	Title, Revision Date and / or Number	Originating Organization	Equipment Type	Modified for Project Work? (Y/N)	Comments
ERT/REAC SOP #2003 Rev. 0.0 08/11/94, <i>Sample Storage, Preservation and Handling</i>	SAMPLE MANAGEMENT PROCEDURES	US EPA	Dedicated	N	
SOP # 2012 US EPA Environmental Response Team SOP #2012 <i>Soil Sampling</i> 2/18/00	SOIL SAMPLING PROCEDURES	US EPA	Dedicated	N	

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #22 (UFP-QAPP Manual Section 3.1.2.4) -- Field Equipment Calibration, Maintenance, Testing, and Inspection Table - NA

Identify all field equipment and instruments (other than analytical instrumentation) that require calibration, maintenance, testing, or inspection and provide the SOP reference number for each type of equipment. In addition, document the frequency of activity, acceptance criteria, and corrective action requirements on the worksheet.

***Field equipment used for the Colfax surface soil sampling activities do not require calibration or testing prior to sample collection.**

Field Equipment	Calibration Activity	Maint. Activity	Testing Activity	Inspection Activity	Frequency	Acceptance Criteria	Corrective Action	Resp. Person	SOP Reference ¹

¹Specify the appropriate reference letter or number from the Project Sampling SOP References table (Worksheet #21).

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #23 (UFP-QAPP Manual Section 3.2.1) -- Analytical SOP References Table

List all SOPs that will be used to perform on-site or off-site analysis. Indicate whether the procedure produces screening or definitive data. Sequentially number analytical SOP references in the Reference Number column. Include copies of the SOPs as attachments or reference in the QAPP. The reference number can be used throughout the QAPP to refer to a specific SOP.

Reference Number	Title, Revision Date, and / or Number	Definitive or Screening Data	Analytical Group	Instrument	Organization Performing Analysis	Modified for Project Work? (Y/N)
N/A	Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (SW-846 8270C)	Screening	Semivolatile Organics	GC-MS	EPA Region 6 Houston Lab	N

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #24 (UFP-QAPP Manual Section 3.2.2) – Laboratory Analytical Instrument Calibration Table

Identify all analytical instrumentation that requires calibration and provide the SOP reference number for each. In addition, document the frequency, acceptance criteria, and corrective action requirements on the worksheet.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference¹
GC/MS	Per April 24, 2013 scoping meeting, QAPP is not required to list details of analytical SOPs if EPA Laboratory is performing the analyses. Calibration procedures will follow EPA Lab SOPs.					

¹Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #23):

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #25 (UFP-QAPP Manual Section 3.2.3) – Laboratory Analytical Instrument and Equipment Maintenance, Testing, and Inspection Table

Identify all analytical instrumentation that requires maintenance, testing, or inspection and provide the SOP reference number for each. In addition, document the frequency, acceptance criteria, and corrective action requirements on the worksheet.

Instrument / Equipment	Maintenance Activity	Testing Activity	Inspection Activity	Frequency	Acceptance Criteria	Corrective Action	Responsible Person	SOP Reference ¹
GC/MS	Per April 24, 2013 scoping meeting, QAPP is not required to list details of analytical SOPs if EPA Laboratory is performing the analyses. Calibration procedures will follow EPA Lab SOPs.							

¹Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #23).

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #26 (UFP-QAPP Manual Appendix A) -- Sample Handling System

Use this worksheet to identify components of the project-specific sample handling system. Record personnel, and their organizational affiliations, which are primarily responsible for ensuring proper handling, custody, and storage of field samples from the time of collection, to laboratory delivery, to final sample disposal. Indicate the number of days field samples and their extracts/digestates will be archived prior to disposal.

SAMPLE COLLECTION, PACKAGING, AND SHIPMENT
Sample Collection (Personnel/Organization): Steven Archibald, LDEQ
Sample Packaging (Personnel/Organization): Steven Archibald, LDEQ
Coordination of Shipment (Personnel/Organization): Steven Archibald, LDEQ
Type of Shipment/Carrier: Overnight delivery service (FedEx) to the EPA Houston Laboratory
SAMPLE RECEIPT AND ANALYSIS
Sample Receipt (Personnel/Organization): Christy Warren, EPA Houston Laboratory
Sample Custody and Storage (Personnel/Organization): Christy Warren, EPA Houston Laboratory
Sample Preparation (Personnel/Organization): Chemist, EPA Houston Laboratory
Sample Determinative Analysis (Personnel/Organization): Chemist, EPA Houston Laboratory
SAMPLE ARCHIVING
Field Sample Storage (No. of days from sample collection): 7
Sample Extract/Digestate Storage (No. of days from extraction/digestion): 14
Biological Sample Storage (No. of days from sample collection): 90 days
SAMPLE DISPOSAL – EPA Houston Laboratory
Personnel/Organization: Christy Warren, EPA Houston Laboratory
Number of Days from Analysis: Samples will be disposed of 90 days following data submission

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #27 (UFP-QAPP Manual Section 3.3.3) – Sample Custody Requirements Table

Describe the procedures that will be used to maintain sample custody and integrity. Include examples of chain-of-custody forms, traffic reports, sample identification, custody seals, laboratory sample receipt forms, and laboratory sample transfer forms. Attach or reference applicable SOPs.

Field Sample Custody Procedures (sample collection, packaging, shipment, and delivery to laboratory): Sample collection procedures are described in EPA SOP No. 2012 for soil. The remaining field procedures for chain-of-custody are provided in EPA SOP No. 2003.

Laboratory Sample Custody Procedures (receipt of samples, archiving, and disposal): The laboratory sample custody are described in applicable EPA Laboratory SOPs.

Sample Identification Procedures: The laboratory sample identification procedures are described in applicable EPA Laboratory SOPs

Chain-of-custody Procedures: The laboratory chain-of-custody procedures are detailed in applicable EPA Laboratory SOPs.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #28 (UFP-QAPP Manual Section 3.4) -- QC Samples Table

Complete a separate worksheet for each sampling technique, analytical method/SOP, matrix, analytical group, and concentration level. If method/SOP QC acceptance limits exceed the measurement performance criteria, the data obtained may be unusable for making project decisions.

QC Sample Tables
Semi-Volatile Organic Compounds

Matrix	Solid					
Analytical Group	SVOC					
Concentration Level	Low					
Sampling SOP	EPA SOP #2012					
Analytical Method/ SOP Reference	ASTM Method 8270C /					
Sampler's Name	Steven Archibald					
Field Sampling Organization	LDEQ					
Analytical Organization	EPA Houston Laboratory					
No. of Sample Locations	five (5) locations					
QC Sample:	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria
Field duplicate	one (1) per ten (10) samples per sample type	RPD < 20%	As per EPA Houston LM	As per EPA Houston LM	Precision	RPD < 20%

Note: EPA Houston LM = Scoping discussion with EPA Houston's Laboratory Contact, dated April 24, 2013

Quality Assurance (QA) samples will be collected as follows: field duplicate samples at a frequency of ten percent (%) or one for every ten (10) samples obtained per matrix. For this sampling exercise, there are 5 locations with one duplicate collected at one location that will be determined in the field by the field team leader.

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #29 (UFP-QAPP Manual Section 3.5.1) -- Project Documents and Records Table

Identify the documents and records that will be generated for all aspects of the project including, but not limited to, sample collection and field measurement, on-site and off-site analysis, and data assessment.

Sample Collection Documents and Records	On-Site Analysis Documents and Records	Off-Site Analysis Documents and Records	Data Assessment Documents and Records	Other
Field logbooks/notes	Chain-of-custody records	Chain-of-custody records	Field sampling audit check lists	
Field data collection sheets	Sample receipt forms/sample tracking forms	Sample receipt forms/sample tracking forms	Field analytical audit checklists	
Chain-of-custody records	Preparation and analysis forms and or logbooks	Preparation and analysis forms and or logbooks	Fixed laboratory audit checklist	
Custody seals	Tabulated data summary forms and raw data for field samples, standards, QC checks, and QC samples	Tabulated data summary forms and raw data for field samples, standards, QC checks, and QC samples	PE sample results	
Sample labels			Data validation reports	
Air bills			Telephone logs	
Photographic log			Corrective action reports	
GPS coordinates of wells and sampling locations	Other project specific documents, such as telephone logs, MDL studies, Initial Precision and Accuracy (IPA) Tests, and corrective action reports	Other project specific documents in the laboratory's possession, such as telephone logs, MDL studies, IPA Tests, Laboratory Pre-award Documentation and corrective action reports		

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #30 (UFP-QAPP Manual Section 3.5.2.3) -- Analytical Services Table

Identify all laboratories or organizations that will provide analytical services for the project, including on-site screening, on-site definitive, and off-site laboratory analytical work. Group by matrix, analytical group, concentration, and sample location or ID number. If applicable, identify the subcontractor laboratories and backup laboratory or organization that will be used if the primary laboratory or organization cannot be used.

Matrix	Analytical Group	Concentration Level	Sample Locations/ID Number	Analytical SOP	Data Package Turnaround Time	Laboratory / Organization (name and address, contact person and telephone number)	Backup Laboratory / Organization (name and address, contact person and telephone number)
Solid	SVOCs	Low	SS-LE-01 Through SS-LE-06	SW-846 Method 8270 C : EPA Lab SOP	35 days	EPA Houston Laboratory Houston, Texas Christy Warren	Nancy Fagan US EPA Region 6 214.665.8385

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheets 31 – 33: Colfax project under direct assessment of EPA and LDEQ**QAPP Worksheet #31 (UFP-QAPP Manual Section 4.1.1) -- Planned Project Assessments Table**

Identify the type, frequency, and responsible parties of planned assessment activities that will be performed for the project.

Assessment Type	Frequency	Internal or External	Organization Performing Assessment	Person(s) Responsible for Performing Assessment (title and organizational affiliation)	Person(s) Responsible for Responding to Assessment Findings (title and organizational affiliation)	Person(s) Responsible for Identifying and Implementing Corrective Actions (CA) (title and organizational affiliation)	Person(s) Responsible for Monitoring Effectiveness of CA (title and organizational affiliation)
NA							

QAPP Worksheet #32 (UFP-QAPP Manual Section 4.1.2) -- Assessment Findings and Corrective Action Responses

For each type of assessment describe procedures for handling QAPP and project deviations encountered during the planned project assessments.

Assessment Type	Nature of Deficiencies Documentation	Individual(s) Notified of Findings (name, title, organization)	Timeframe of Notification	Nature of Corrective Action Response Documentation	Individual(s) Receiving Corrective Action Response (name, title, organization)	Timeframe for Response
NA						

QAPP Worksheet #33 (UFP QAPP Manual Section 4.2) -- QA Management Reports Table

Identify the frequency and type of planned QA Management Reports, the project delivery dates, the personnel responsible for report preparation, and the report recipients.

Type of Report	Frequency (daily, weekly monthly, quarterly, annually, etc.)	Projected Delivery Date(s)	Person(s) Responsible for Report Preparation (title and organizational affiliation)	Report Recipient(s) (title and organizational affiliation)
QAPP	One per sampling project	Seven (7) days prior to field work	Steven Archibald, LDEQ Nancy Fagan, US EPA Region 6	Steven Archibald, LDEQ Nancy Fagan, US EPA Region 6

QAPP Worksheet #34 (UFP-QAPP Manual Section 5.2.1) -- Verification (Step I) Process Table

Describe the processes that will be followed to verify project data. Describe how each item will be verified, when the activity will occur, and what documentation is necessary, and identify the person responsible. *Internal* or *external* is in relation to the data generator.

Verification Input	Description	Internal / External	Responsible for Verification (name, organization)
Chain-of-custody	Form will be internally reviewed upon completion and verified against field logs, laboratory reports and the QAPP. Review will be conducted with completion of the Trip Report.	I	Nancy Fagan, US EPA Region 6
Trip Report	Trip Report will document sampling event and will be verified with field logbooks to ensure correct reporting of information. Review will be conducted with completion of the report.	I	Nancy Fagan, US EPA Region 6
Laboratory data package	Laboratory data package will be reviewed and verified against the QAPP criteria.	I	Nancy Fagan, US EPA Region 6
Lab data and QC report	A summary of all QC samples and results will be verified for measurement performance criteria, completeness and 10% verified to field and laboratory data reports from vendors. A report shall be prepared within 14 days of receipt.	I	Christy Warren, US EPA Region6

QAPP Worksheet #35 (UFP-QAPP Manual Section 5.2.2) -- Validation (Steps IIa and IIb) Process Table

Describe the processes that will be followed to validate project data. Validation inputs include items such as those listed in Table 9 of the UFP-QAPP Manual (Section 5.1). Describe how each item will be validated, when the activity will occur, and what documentation is necessary and identify the person responsible. Differentiate between steps IIa and IIb of validation.

Step IIa / IIb	Validation Input	Description	Responsible for Validation (name, organization)
NA			

QAPP Worksheet #36 (UFP-QAPP Manual Section 5.2.2) -- Validation (Steps IIa and IIb) Summary Table

Identify the matrices, analytical groups, and concentration levels that each entity performing validation will be responsible for, as well as criteria that will be used to validate those data.

Step IIa / IIb	Matrix	Analytical Group	Concentration Level	Validation Criteria	Data Validator (title and organizational affiliation)
NA					

Site-Specific QAPP and Field SAP

Site Name/Project Name: Colfax Creosoting/Roy O. Martin Sampling

Site Location: Alexandria, Louisiana

Title: Soil/Sediment Sampling

Revision 0

Date: May 1, 2013

QAPP Worksheet #37 (UFP-QAPP Manual Section 5.2.3) -- Usability Assessment

Describe the procedures / methods / activities that will be used to determine whether data are of the right type, quality, and quantity to support environmental decision-making for the project. Describe how data quality issues will be addressed and how limitations on the use of the data will be handled.

Summarize the usability assessment process and all procedures, including interim steps and any statistics, equations, and computer algorithms that will be used: EPA and LDEQ do not foresee having to perform a usability assessment.

Describe the evaluative procedures used to assess overall measurement error associated with the project: EPA and LDEQ do not foresee performing a usability assessment.

Identify the personnel responsible for performing the usability assessment: Christy Warren US EPA Lab

Describe the documentation that will be generated during usability assessment and how usability assessment results will be presented so that they identify trends, relationships (correlations), and anomalies: EPA and LDEQ do not foresee performing a usability assessment.

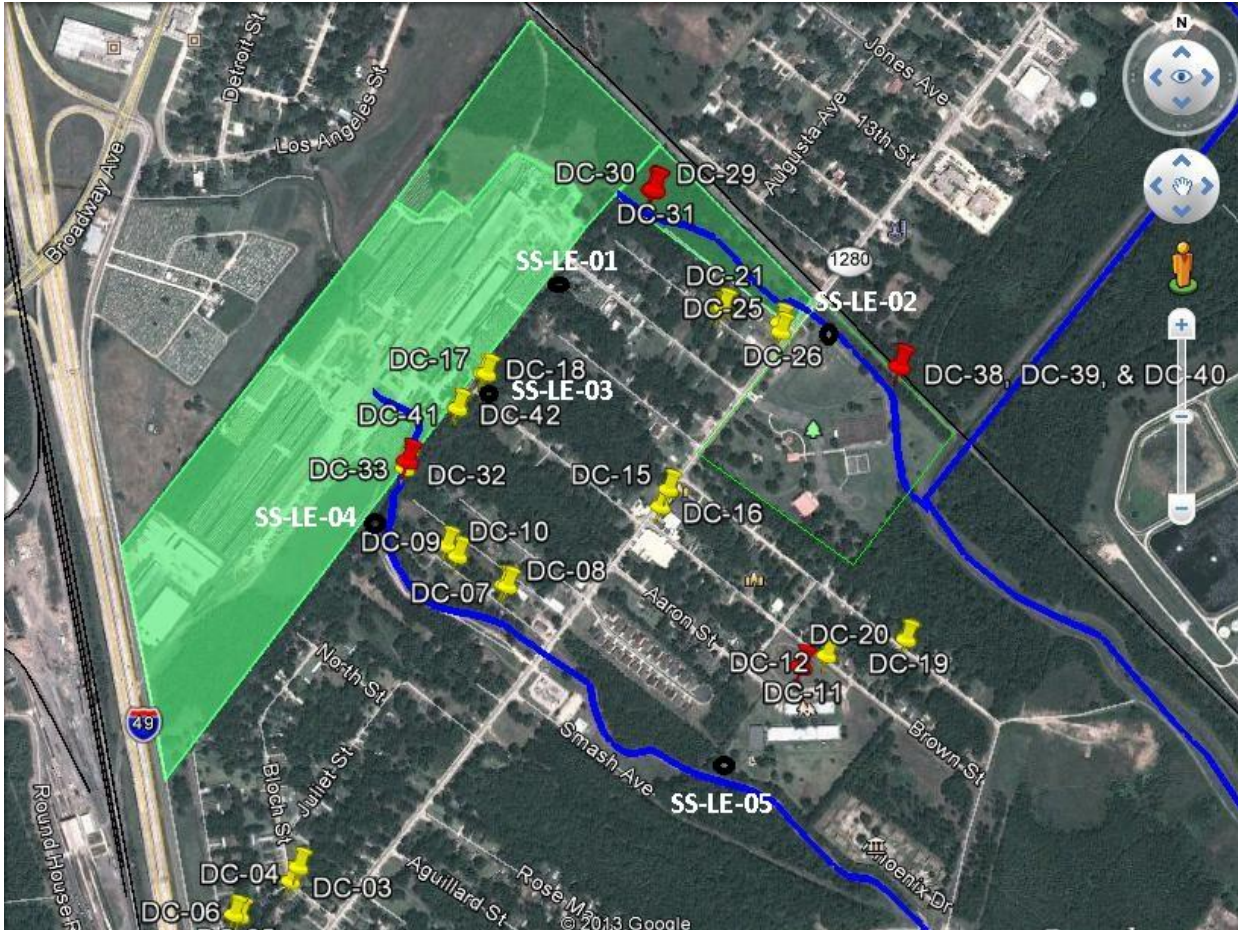
APPENDIX A

FIGURES

Figure 1 Colfax Creosote Site, Alexandria, LA



Figure 2 LDEQ/EPA Sample Locations denoted as SS-LE-01 through SS-LE-05



- LE-01 Koppers Road
- LE-02 Hunter Park
- LE-03 Bethel Street
- LE-04 Henry Street
- LE-05 Hayes Elementary School